

03460795 PIGEON RIVER BELOW POWER PLANT NEAR WATERVILLE, NC

French Broad-Holston Basin Pigeon Subbasin

LOCATION.--Lat 35°47'01", long 83°06'43" referenced to North American Datum of 1983, Haywood County, NC, Hydrologic Unit 06010106, on left bank, 550 ft upstream of Browns Bridge on Waterville Road, 0.92 miles downstream of Cocke County Tennessee and Haywood County North Carolina lines, 1.05 miles northwest of Waterville, and at mile 25.

DRAINAGE AREA.--538 mi².

SURFACE-WATER RECORDS

PERIOD OF RECORD.--February 1997 to current year.

REVISED RECORDS.--WDR NC-04-1: 1997-1998 (annual maximum discharge), 2003 (annual maximum discharge).

GAGE.--Water-stage recorder. Elevation of gage is 1,360 ft above National Geodetic Vertical Datum of 1929, from topographic map. Satellite telemetry at streamgage.

REMARKS.--Records good except those for estimated daily discharges, which are poor. Considerable regulation, caused by Walters Hydroelectric Plant, 1.0 mi upstream. Maximum discharge for period of record from rating curve extended above 11,000 ft³/s on basis of slope-conveyance measurement of peak flow. Minimum discharge for period of record and current water year affected by regulation.

03460795 PIGEON RIVER BELOW POWER PLANT NEAR WATERVILLE, NC—Continued

DISCHARGE, CUBIC FEET PER SECOND WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013 DAILY MEAN VALUES

[e, estimated]

						le, estimate	uj					
Day	0ct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	745	554	180	780	4,490	2,440	2,900	2,580	1,030	1,150	1,120	773
2	2,070	584	178	1,230	3,040	1,850	2,220	2,490	1,250	1,640	621	1,020
3	2,300	553	178	1,160	2,910	1,540	2,210	2,450	1,430	1,760	821	1,200
4	2,110	299	175	1,760	2,510	1,670	2,220	2,410	568	7,070	592	917
5	822	667	184	978	2,260	2,150	2,340	5,150	1,220	8,640	758	746
6	694	702	601	303	1,850	3,100	1,560	8,680	3,060	4,650	699	316
7	498	808	938	1,160	1,680	2,190	1,390	4,720	1,370	4,930	961	475
8	704	524	338	799	1,960	1,550	1,570	3,800	1,370	4,250	1,320	415
9	545	516	550	968	2,450	1,550	1,520	3,000	1,510	3,120	1,270	420
10	418	246	528	784	2,420	1,840	1,610	2,550	2,040	2,840	e1,190	793
11	647	227	623	786	2,060	1,730	1,820	2,420	2,560	3,710	1,590	715
12	580	277	558	872	1,950	2,460	3,410	2,400	2,150	2,660	1,350	705
13	448	519	431	913	852	2,200	3,030	1,960	1,760	2,360	1,560	658
14	494	675	368	3,640	1,450	2,070	2,590	2,010	1,470	2,330	1,570	282
15	957	753	182	12,600	1,600	2,040	2,460	1,660	1,100	1,970	1,320	313
16	425	483	206	14,300	1,850	1,120	1,420	1,530	1,030	1,600	1,160	824
17	490	363	504	11,100	1,650	1,210	1,580	1,620	1,330	1,620	1,160	502
18	178	208	1,090	9,550	1,470	1,710	2,320	1,570	1,640	1,510	750	217
19	357	533	852	5,440	1,810	2,500	2,370	1,190	1,080	1,450	1,070	568
20	175	413	739	4,140	1,690	1,810	2,130	1,370	952	1,550	1,310	497
21	609	403	1,150	3,280	1,430	1,910	1,930	1,610	829	2,110	1,240	704
22	434	561	1,280	2,820	1,800	1,450	1,900	1,280	671	2,080	1,370	978
23	547	304	1,290	2,490	1,900	1,270	1,770	1,610	820	1,640	1,120	735
24	280	329	970	2,450	511	1,880	1,650	948	999	1,600	1,230	596
25	551	414	1,430	2,200	2,030	2,210	1,680	1,370	817	1,650	776	1,130
26	173	461	2,900	1,600	2,020	1,750	1,880	1,030	1,040	1,290	791	1,340
27	364	446	2,900	1,480	2,520	1,920	1,870	934	875	1,060	567	739
28	335	291	2,440	1,280	2,490	1,340	2,370	1,080	1,060	1,100	631	822
29	656	583	1,420	1,730		2,000	3,160	1,020	734	1,050	599	651
30	473	451	1,480	4,270		2,130	3,370	1,010	221	1,070	803	650
31	630		1,090	9,360		1,680		853		1,070	630	
Total	20,709	14,147	27,753	106,223	56,653	58,270	64,250	68,305	37,986	76,530	31,949	20,701
Mean	668	472	895	3,427	2,023	1,880	2,142	2,203	1,266	2,469	1,031	690
Max	2,300	808	2,900	14,300	4,490	3,100	3,410	8,680	3,060	8,640	1,590	1,340
Min	173	208	175	303	511	1,120	1,390	853	221	1,050	567	217

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2013, BY WATER YEAR (WY)

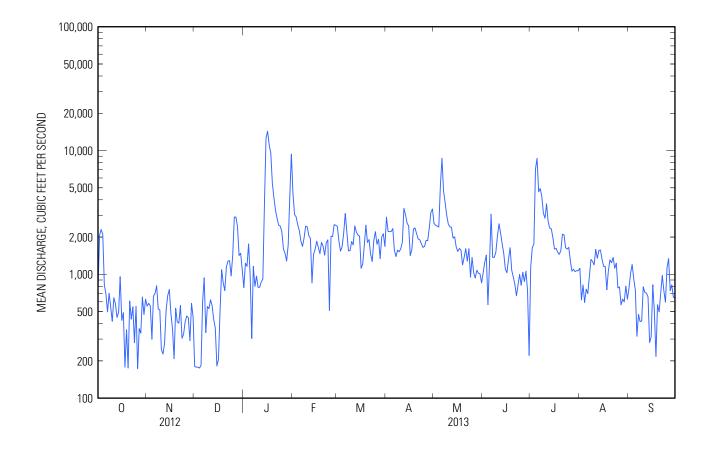
	0ct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Mean	504	755	1,102	1,421	1,393	1,564	1,458	1,190	835	823	567	746
Max	1,462	1,898	2,440	3,427	3,096	3,505	2,540	2,835	1,742	2,469	1,203	4,517
(WY)	(2005)	(2010)	(2010)	(2013)	(1998)	(1997)	(1998)	(2003)	(2005)	(2013)	(2005)	(2004)
Min	153	234	499	703	593	762	785	483	365	290	293	172
(WY)	(1999)	(2009)	(2008)	(2008)	(2009)	(2006)	(2007)	(2007)	(2008)	(2008)	(2008)	(2007)

03460795 PIGEON RIVER BELOW POWER PLANT NEAR WATERVILLE, NC—Continued

SUMMARY STATISTICS

	Calendar Y	ear 2012	Water Yea	r 2013	Water Years	s 1997 - 2013
Annual total	329,846		583,476			
Annual mean	901		1,599		1,012	
Highest annual mean					1,599	2013
Lowest annual mean					582	2008
Highest daily mean	3,020	Apr 19	14,300	Jan 16	22,500	Sep 8, 2004
Lowest daily mean	130	Sep 29	173	Oct 26	74	Nov 19, 2000
Annual seven-day minimum	160	Sep 9	276	Nov 29	117	Oct 2, 1998
Maximum peak flow			19,700	Jan 16	^a 39,000	Sep 17, 2004
Maximum peak stage			14.00	Jan 16	18.88	Sep 17, 2004
Instantaneous low flow			^a 74	Oct 14	^a 24	Jun 23, 2002
10 percent exceeds	1,820		2,720		1,980	
50 percent exceeds	739		1,280		772	
90 percent exceeds	270		419		184	

a See Remarks.



03460795 PIGEON RIVER BELOW POWER PLANT NEAR WATERVILLE, NC—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1997 to current year.

PERIOD OF DAILY RECORD .--

WATER TEMPERATURE: Water years 1997 to current year.

DISSOLVED OXYGEN: Water years 1997 to current year.

INSTRUMENTATION .-- Water-quality monitor since May 1997.

REMARKS.--Data were collected during the current year for the months of June through September.

EXTREMES FOR PERIOD OF DAILY RECORD .--

WATER TEMPERATURE: Maximum recorded, 25.5°C, August 27, 2007, August 13, 2010; minimum recorded, 6.8°C, June 2, 2001.

DISSOLVED OXYGEN: Maximum recorded, 15.8 mg/L, July 21, 2007; minimum recorded, 3.1 mg/L, November 1, 1998.

DISSOLVED OXYGEN, PERCENT SATURATION: Maximum recorded, 190%, July 21, 2007; minimum recorded, 19%, August 19, 1998.

EXTREMES FOR CURRENT YEAR.--

WATER TEMPERATURE: Maximum recorded, 22.3°C, September 11; minimum recorded, 16.4°C, June 15.

DISSOLVED OXYGEN: Maximum recorded, 9.5 mg/L, September 27; minimum recorded, 5.8 mg/L, September 11.

DISSOLVED OXYGEN, (PERCENT SATURATION): Maximum recorded, 107%, August 26; minimum recorded, 70%, September 10.

03460795 PIGEON RIVER BELOW POWER PLANT NEAR WATERVILLE, NC—Continued

TEMPERATURE, WATER, DEGREES CELSIUS WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean									
		October			Novembe	r		Decembe	r		January	
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03460795 PIGEON RIVER BELOW POWER PLANT NEAR WATERVILLE, NC—Continued

TEMPERATURE, WATER, DEGREES CELSIUS WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February	1		March			April			May	
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03460795 PIGEON RIVER BELOW POWER PLANT NEAR WATERVILLE, NC—Continued

TEMPERATURE, WATER, DEGREES CELSIUS WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August		;	Septembe	r
1	18.8	17.6	18.2	21.4	19.8	20.6	21.2	19.9	20.6	21.4	20.4	20.9
2	18.8	17.5	18.4	21.6	19.8	21.1	21.1	20.0	20.6	21.6	19.8	20.7
3	18.9	17.4	18.3	21.5	19.6	20.8	21.2	20.1	20.7	21.7	19.5	20.6
4	19.3	17.6	18.5	21.1	18.6	19.8	21.2	20.4	20.8	22.0	19.1	20.4
5	19.3	18.0	18.7	19.2	17.3	18.0	21.4	20.0	20.8	22.0	19.6	20.7
6	19.0	17.2	18.5	17.6	16.8	17.2	21.4	20.4	21.0	21.4	19.5	20.4
7	19.1	16.8	18.0	17.5	17.1	17.3	21.5	20.9	21.2	22.1	19.7	20.7
8	19.3	16.7	18.2	17.9	17.2	17.5	21.7	20.5	21.2	22.0	20.0	20.7
9	19.6	16.9	18.6	18.4	17.1	17.5				21.9	20.1	20.9
10	19.6	17.5	19.1	18.2	17.3	17.7				22.0	20.3	21.2
11	19.3	18.8	19.1	18.7	17.7	18.4	21.4	18.4	19.8	22.3	20.8	21.5
12	19.4	17.8	19.0	18.6	18.2	18.4	21.6	19.1	20.2	22.1	19.6	21.2
13	19.5	18.2	19.0	18.8	18.4	18.6	21.1	18.8	20.0	21.3	18.8	19.9
14	19.4	17.0	18.4	19.0	18.7	18.9	21.1	18.4	19.9	19.6	18.4	19.1
15	19.3	16.4	17.9	19.3	18.7	18.9	21.4	17.8	19.9	20.6	18.5	19.3
16	19.4	17.1	18.2	19.0	18.2	18.8	21.6	18.3	20.0	21.3	18.9	20.0
17	19.4	17.8	18.8				21.4	18.9	20.3	20.9	19.4	20.0
18	19.8	18.0	19.3				21.3	19.3	20.1	19.8	19.3	19.5
19	19.9	17.5	18.7	19.7	19.0	19.5	21.0	19.0	19.9	20.9	19.3	19.9
20	20.0	17.8	18.9	20.0	19.1	19.8	20.5	18.2	19.4	20.9	19.5	20.1
21	20.0	18.1	19.0	20.2	19.8	20.0	20.1	18.1	19.1	20.8	17.6	19.5
22	19.9	18.0	19.1	20.3	19.4	20.1	20.4	18.2	19.4	19.9	17.4	18.8
23	20.1	18.4	19.3	20.4	18.9	19.9	20.4	18.8	19.7	20.0	17.3	18.4
24	20.4	18.9	19.7	20.4	19.1	20.1	20.8	18.7	19.8	19.9	17.4	18.4
25	20.5	19.2	19.9	20.7	19.1	20.3	20.8	18.7	19.8	19.8	18.0	18.9
26	20.7	19.4	20.1	20.9	19.0	20.2	20.8	18.9	19.8	19.7	16.9	18.4
27	20.8	19.7	20.3	20.9	19.6	20.3	20.6	19.1	19.8	19.0	16.5	17.5
28	21.1	19.7	20.5	21.0	19.4	20.3	20.7	19.4	20.1	18.9	16.5	17.6
29	21.4	19.6	20.4	21.1	19.4	20.3	20.9	19.8	20.4	18.8	17.0	17.7
30	21.0	19.3	20.1	21.1	19.4	20.4	21.5	20.1	20.7	18.9	17.0	17.8
31				21.1	19.7	20.4	21.3	20.5	20.9			
Month	21.4	16.4	19.0							22.3	16.5	19.7

03460795 PIGEON RIVER BELOW POWER PLANT NEAR WATERVILLE, NC—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean									
		October			Novembe	r		Decembe	r		January	
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03460795 PIGEON RIVER BELOW POWER PLANT NEAR WATERVILLE, NC—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
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Month												

03460795 PIGEON RIVER BELOW POWER PLANT NEAR WATERVILLE, NC—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August		;	Septembe	r
1	8.9	8.1	8.4	8.4	7.1	7.7	8.8	7.4	8.0	8.5	6.5	7.5
2	8.6	8.0	8.3	8.1	6.5	7.4	8.8	7.8	8.1	8.5	6.7	7.6
3	8.8	8.0	8.4	8.1	6.7	7.5	8.8	7.4	7.9	8.5	6.5	7.6
4	9.0	8.0	8.4	9.0	8.1	8.6	8.8	7.4	7.9	8.6	6.2	7.7
5	8.9	7.8	8.2	9.3	9.0	9.2	8.8	7.3	7.8	8.6	6.3	7.5
6	8.8	7.8	8.2	9.2	8.9	9.1	8.7	7.2	7.7	8.6	7.4	7.8
7	9.0	7.9	8.4	9.1	9.0	9.1	8.6	7.2	7.7	8.8	6.5	7.8
8	9.3	7.8	8.4	9.2	8.8	9.0	8.5	7.1	7.6	8.8	6.7	7.6
9	9.2	7.8	8.3	9.0	8.7	8.8				8.8	6.4	7.6
10	8.7	7.8	8.2	8.9	8.6	8.7				9.0	5.9	7.2
11	8.4	8.0	8.3	8.9	8.5	8.7	9.1	7.1	8.3	8.9	5.8	7.3
12	8.8	8.1	8.3	8.7	8.4	8.5	9.0	7.4	8.2	8.6	6.3	7.4
13	8.7	8.1	8.4	8.6	8.4	8.5	9.0	7.5	8.3	8.9	6.6	7.9
14	9.1	8.3	8.6	8.5	8.3	8.4	9.1	7.5	8.2	9.0	7.9	8.3
15	9.4	8.2	8.8	8.5	8.2	8.4	9.1	7.3	8.1	9.1	7.3	8.3
16	9.3	8.1	8.7	8.8	8.3	8.5	9.1	7.1	8.1	9.3	6.5	7.8
17	9.0	8.1	8.4				8.9	7.0	7.8	9.2	6.8	7.9
18	8.6	7.9	8.1				8.9	7.0	7.9	8.8	7.7	8.2
19	9.0	7.9	8.4	8.8	8.2	8.4	9.2	6.8	7.9	9.2	7.0	8.2
20	9.1	7.8	8.4	8.7	8.2	8.4	9.1	7.3	8.1	9.2	7.0	7.9
21	9.1	7.8	8.4	8.4	8.2	8.3	9.3	7.6	8.3	8.9	7.0	7.9
22	9.1	7.8	8.3	8.5	8.0	8.2	9.1	7.5	8.2	8.9	7.4	8.1
23	8.9	7.7	8.2	8.8	8.0	8.3	9.0	7.5	8.1	9.2	7.2	8.2
24	9.0	7.5	8.1	8.6	7.8	8.2	9.1	7.4	8.1	9.2	7.2	8.3
25	8.9	7.5	8.0	8.6	7.8	8.2	9.2	7.5	8.4	9.1	7.4	8.0
26	8.6	7.3	7.9	9.0	7.7	8.2	9.4	7.4	8.3	8.9	7.5	8.2
27	8.5	7.3	7.8	8.7	7.7	8.1	8.9	7.6	8.0	9.5	7.8	8.6
28	8.5	7.2	7.7	8.8	7.6	8.1	9.0	7.2	7.9	9.4	7.6	8.5
29	8.5	7.3	7.8	8.9	7.5	8.1	8.5	7.1	7.7	9.3	7.7	8.5
30	8.5	7.7	8.1	8.6	7.6	8.0	8.7	6.8	7.6	9.2	7.6	8.4
31				8.9	7.6	8.0	8.4	7.0	7.5			
lonth	9.4	7.2	8.3							9.5	5.8	7.9

03460795 PIGEON RIVER BELOW POWER PLANT NEAR WATERVILLE, NC—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, PERCENT OF SATURATION WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean									
		October	•		Novembe	r		Decembe	r		January	
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03460795 PIGEON RIVER BELOW POWER PLANT NEAR WATERVILLE, NC—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, PERCENT OF SATURATION WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		February	1		March			April			May	
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03460795 PIGEON RIVER BELOW POWER PLANT NEAR WATERVILLE, NC—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, PERCENT OF SATURATION WATER YEAR OCTOBER 2012 TO SEPTEMBER 2013

Day	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max	Min	Mean
		June			July			August		;	Septembe	er
1	98	90	93	97	84	89	101	87	92	100	76	88
2	95	87	92	93	77	87	102	91	93	98	79	88
3	97	90	93	92	78	87	103	87	92	97	76	88
4	100	88	93	102	92	99	103	87	92	99	73	89
5	100	88	92	103	99	101	104	86	91	100	75	87
6	96	88	92	100	96	98	102	85	91	100	87	91
7	97	89	93	99	98	99	101	85	90	103	77	90
8	101	88	93	100	96	98	99	84	89	102	80	89
9	99	89	92	98	95	96				103	76	88
10	95	88	92	98	94	96				105	70	84
11	95	90	93	99	94	96	102	84	94	106	70	87
12	97	92	94	97	93	95	103	87	94	102	75	87
13	96	92	94	96	94	94	101	88	95	101	78	90
14	98	94	96	96	93	94	101	88	94	102	89	94
15	102	93	96	96	92	94	101	86	92	104	85	94
16	102	92	96	97	93	95	103	84	93	106	76	89
17	99	92	94				100	82	90	105	79	90
18	95	90	92				101	82	91	100	87	94
19	99	90	94	100	93	96	104	79	91	106	81	93
20	102	89	94	99	94	96	101	84	92	106	82	90
21	102	89	95	97	94	95	103	87	93	98	81	90
22	102	89	94	96	92	94	101	87	92	97	84	91
23	100	88	93	99	92	95	101	87	92	102	83	91
24	103	87	93	97	90	93	102	86	93	102	82	92
25	102	87	92	97	91	94	106	87	96	100	84	89
26	98	85	90	102	90	94	107	86	95	96	85	91
27	97	85	90	100	90	94	101	88	92	103	87	94
28	98	84	89	102	89	93	103	84	90	102	85	93
29	98	85	90	102	88	93	97	83	89	102	86	93
30	99	88	93	97	89	92	102	80	88	100	85	92
31				102	89	93	98	82	87			
Month	103	84	93							106	70	90